Pathological Consequences of Failure of the Bauhinia Valve as Possible Causes of Allergy and Dermatosis

Introduction

Currently, there is a paradoxical situation where the dominant medical opinion recognizes the harmfulness of dysfunction of such barrier structures as cardia, gatekeeper, Oddi’s sphincter; heart valves, lower extremity vein valves, etc., but ignores the failure of the ileocecal locking apparatus (Bauhinia valve) as a possible cause of the pathology of the digestive system, as well as various extraintestinal diseases. According to our data, based on an analysis of 976 irrigoscopy, the failure of the Bauhinia Damper (NBZ) was detected in 56% of cases. We assign one of the leading roles in the digestive system to the ileocecal locking apparatus, which delimits the functions of the small and large intestines, isolating the small intestine from the reflux of large intestinal contents, which differs sharply in chemical composition, physical condition and bacterial spectrum. As a result of the NBZ, billions of colon microbes are thrown into the small intestine, colonization of the small intestine with allochtonic (alien) microorganisms occurs, which leads to the development of putrefactive and fermentative processes in the small intestine. The waste products of microorganisms - indole, phenol, cresol, skatole, pyrocatechin, carboxic acid, hydrogen sulfide, mercaptan, ethane, methane, etc. - infect the mucous membrane of the small intestine and, being absorbed into the bloodstream, cause autointoxication phenomena. These metabolites cannot be sufficiently detoxified, especially in liver diseases. Toxic, invasive and often necrotic properties, microbes contribute to the destruction of the intestinal wall, as well as dystrophic, destructive and necrotic changes of the mucous membrane. In this case, the barrier role of the intestinal wall is violated. The intestine becomes the entrance gate of the infection, as evidenced by non-specific bacteremia in patients with intestinal dysbiosis and the formation of foci of endogenous infection. The lymphoid tissue in the course of the gastrointestinal tract also suffers as a result of the chronization of the process, and the result is a deficiency of immunoglobulins A and M. The organism becomes less protected before microbial aggression. Studies of the lymphoid tissue associated with the gastrointestinal tract have three main groups of immunological elements: lymphoid follicles located throughout the intestinal tube, plasma and T-lymphoid cells diffusely infiltrating the mucous membrane of the digestive organs, small unidentified cells. It was found that in 82.4% of patients with chronic colitis, in 70% of patients with chronic enterocolitis, a marked decrease in the immunological reactivity of the organism in patients with gastrointestinal diseases is observed.

Disruption of the general condition arises from the period of the disease when absorption in the small intestine begins to suffer. Therefore, in varying degrees, it occurs in most chronic enteritis. There are forms of chronic enteritis, which manifest exclusively general symptoms, seemingly unrelated to the intestinal tract, and only a thorough clinical examination reveals the true nature of the disease: a violation of the protein metabolism, the digestive systems of the gastrointestinal tract, fat metabolism, phospholipids, cholesterol, carbohydrate violation, vitamin, mineral metabolism, endocrine insufficiency, disorders of hematopoiesis, nervous system, pathology of the skin, lungs, cardiovascular system.

Many authors have recognized the fact of ascending retrograde infection of the mucous membrane of the small intestine with the failure of the bauhinia valve (NBZ). Such a pathological condition is called “excess bacterial growth syndrome (SIBO).”

Currently, SIBR is recognized as a key pathogenetic mechanism in the development and persistence of many diseases of the digestive tract and associated extra-digestive conditions (bronchial asthma, dermatological atopy, diabetes, autoimmune allergic conditions, precancerous conditions, etc.)
Materials and Methods

The study was conducted on the basis of the surgical department of the State Budgetary Healthcare Institution “City Clinical Hospital No. 12” in Nizhny Novgorod from September 2014 to December 2014. For a period of more than 30 years, Bauginoplasty was performed on 565 patients according to the methods of Professor V.L. Martynov. Laboratory confirmation of chronic auto-intoxication has been proven by such indicators as urine indican, the level of medium serum molecules, lipid peroxidation, and lipid metabolism. The determination of hydrogen in exhaled air by the Gastrolyser apparatus with a lactulose load before the operation and on the 7th day after the operation was performed to 20 patients (12 women, 8 men) with NBZ.

To determine the antimicrobial resistance of the organism, in a group of 20 patients with NBZ, the content of antibodies to peptidoglycan Staphylococcus aureus (strain 885, solubilized by ultrasound) was studied. Each sample was placed in 3 repetitions, calculating the average result. Peptidoglycan is a structural component of the cell wall of all bacteria, which, in addition to its individual traits, has a certain immunological community, which makes it possible to indirectly judge the content of anti-peptidoglycan antibodies as a whole.

Results

Of the 565 patients with NBZ, the qualitative response of urine to indican was positive in 95% of cases (normally this reaction is negative). Before and after surgery, this reaction was determined in 24 patients. In all 24 before the operation, the qualitative reaction of urine to indican was evaluated as positive, after Bauginoplasty (BP), this reaction was positive only in 4 patients (5%).

The level of medium molecules (USM) is increased in 82% of patients (on average, this value is 43.5% higher than the norm). Serum serum before and after BP is determined in 20 patients. Normal values before and after PD were found in 1 case. USM decreased compared with preoperative in 16 patients. Of the 16 studied with a decrease in USM serum in 7, this decrease reached normal values, in 9 the norm was not achieved.

Under NBZ conditions (N = 193), normolipidemia was detected in 20%, hyperlipidemia in 72%, hypolipidemia in 8% of patients. In the absence of reflux into the small intestine from the colon (in patients after PD), normolipidemia was noted in 84%, hyperlipidemia - in 16% of patients.

It was revealed that the content of antibodies to the indicated antigen was higher than in practically healthy people (positive control) in 8 patients (40%), it was less in 12 patients (60%). An increase in the antibody content of more than 2 times compared with healthy ones was observed in 3 patients (15%). Based on this study, it can be assumed that the majority (60%) of patients with NBZ have a decrease in the intensity of immunity to microbial antigens [1,2]. After surgical correction of NBZ, after 1-2 years, the same patients had higher levels of antibodies to peptidoglycan than practically healthy people (positive control) in 12 (60%), less - in 8 (40%). The antibody content is more than 2 times higher than in healthy patients in 9 patients (41%).

The average VDT with lactulose load in patients with NBZ: basal excretion of hydrogen (ppm) - 1.9; in 15 minutes after loading - 4.1; in 30 minutes - 6.1; in 45 minutes - 27.3; in 60 minutes - 34.7; after 75 minutes - 67.8; after 90 minutes - 87.2; after 105 minutes - 85.4; after 120 minutes - 79.3.

On the 7th day in the early postoperative period, in the absence of antibiotic therapy, indican urine was negative in all operated patients. The results of VDT with lactulose load after PD are as follows: basal excretion of hydrogen (ppm) - 2.1; in 15 minutes after loading - 3.9; in 30 minutes - 5.1; in 45 minutes - 5.3; in 60 minutes - 9.7; after 75 minutes - 21.3; after 90 minutes - 25.1; after 105 minutes - 37.3; after 120 minutes - 35.4.

Conclusion

When NBZ patients develop SIBR, chronic auto-intoxication, the body’s antimicrobial resistance decreases, which can be the cause of many pathological conditions and nosological forms, including allergies and dermatoses. Bauginoplasty is the etiopathogenetic method of their correction.

References